In the Claims

1. (Original) A method comprising the steps of:
applying a non-selective preparation pulse for a first slice;
applying a notched preparation pulse for subsequent slices; and
acquiring MR data.

2. (Original) The method of claim 1 wherein the non-selective preparation pulse is effective for blood pool suppression for the first slice and a next slice.

3. (Original) The method of claim 1 wherein the step of acquiring includes the step of applying a series of readout pulses for each slice.

4. (Original) The method of claim 3 wherein each series of readout pulses defines an image acquisition segment and wherein the image acquisition segment for the first slice has less spatial resolution than that of the other acquisition segments.

5. (Original) The method of claim 3 wherein the first slice acquired has a different orientation than that of subsequent slices acquired.

6. (Original) The method of claim 5 wherein the subsequent slices acquired are oriented in parallel to one another.

7. (Original) The method of claim 1 wherein the number of slices extend over a series of R-R intervals.

8. (Original) The method of claim 1 further comprising the step of providing a linear measurement of contrast concentration over a region-of-interest.

9. (Original) The method of claim 1 further comprising the step of reconstructing an image of renal or liver perfusion in a subject.

10. (Original) A pulse sequence comprising:

a non-selective preparation segment followed by a first acquisition segment played out in a calibration interval; and

a series of notched selective preparation segments followed by subsequent data acquisition segments played out after the calibration interval.

11. (Original) The pulse sequence of claim 10 wherein the first acquisition segment has a spatial resolution different from that of the subsequent acquisition segments.

12. (Original) The pulse sequence of claim 11 wherein the spatial resolution of the first acquisition segment is less than that of the subsequent acquisition segments.

13. (Original) The pulse sequence of claim 12 wherein the spatial resolution of the image acquisition segment is one-half than that of the image acquisition segments.

14. (Original) The pulse sequence of claim 10 further comprising a data acquisition segment in a given R-R interval that is not preceded by a non-selective preparation segment for that data acquisition segment.

15. (Original) The pulse sequence of claim 10 wherein the non-selective preparation segment includes a saturation recovery pulse that is effective for a first slice and a next slice.

16. (Original) The pulse sequence of claim 10 wherein the first acquisition segment is configured to acquire data that extends along a plane different from data acquired in the subsequent data acquisition segments.

17. (Original) An MRI apparatus comprising:

a magnetic resonance imaging (MRI) system having a plurality of gradient coils positioned about a bore of a magnet to impress a polarizing magnetic field and an RF transceiver system and an RF switch controlled by a pulse module to transmit RF signals to an RF coil assembly to acquire MR images; and

a computer programmed to:

apply a non-selective, saturation recovery pulse designed to saturate a first slice of a set of slices;